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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference m80555798:BGC:mc	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. **PCT/AU2003/000968**	International Filing Date *(day/month/year)* 1 August 2003	Priority Date *(day/month/year)* 1 August 2002
International Patent Classification (IPC) or national classification and IPC **Int. Cl.**[7] C09K 21/14; C08K 3/34; H01B 7/29, 7/295		
Applicant POLYMERS AUSTRALIA PTY LIMITED et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   [X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of **1** sheet(s).

3. This report contains indications relating to the following items:

   - I [X] Basis of the report
   - II [ ] Priority
   - III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV [ ] Lack of unity of invention
   - V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI [ ] Certain documents cited
   - VII [ ] Certain defects in the international application
   - VIII [ ] Certain observations on the international application

Date of submission of the demand 2 February 2004	Date of completion of the report 9 November 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer **N.L. KING** Telephone No. (02) 6283 2150

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/AU2003/000968

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed.

☒ the description, pages **1-27,** as originally filed,
pages , filed with the demand,
pages , received on with the letter of

☒ the claims, pages **28-30 & 32,** as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
page **31** , received on **1 November 2004** with the letter of **1 November 2004**

☒ the drawings, pages **1** , as originally filed,
pages , filed with the demand,
pages , received on with the letter of

☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the **language,** all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-38	YES
	Claims		NO
Inventive step (IS)	Claims	1-38	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-38	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

D1 JP 53016758
D2 JP 09055125
D3 JP 2001035267

NOVELTY(N) Claims 1-38

Claims 1 and 19 define fire-resistant compositions comprising a silicone polymer, 5-30% mica and 0.3 - 8% glass. Claim 35 defines an electrical cable comprising a silicone polymer, 5-30% mica and 0.3 - 8% glass. As explained on pages 4-5, the presence of glass results in the formation of a stronger ceramic material but the amount is limited to 8% because larger amounts give rise to unacceptable shrinkage on heating to temperatures greater than 1000°C.
Closely-related art appears in each of the above citations which describe wires with fire-resistant coatings comprising a silicon polymer, mica and glass. Mica contents are within the required range. However, in D1 and D2 the amounts of glass exceed 8% of the composition, while in D3 glass is present in the required range but only in comparison examples 2 and 3 and not in examples of the invention.
Consequently, the claims are not deprived of novelty by the above citations.

INVENTIVE STEP(IS) Claims 1-38

Claims 1-38 involve an inventive step because it would not be obvious to a person skilled in the art to prepare fire-resistant compositions comprising a silicone polymer, mica and glass in the amounts claimed.

27. The composition according to claim 19, further comprising at least one fire retardant material selected from the group consisting of zinc borate, magnesium hydroxide or aluminium hydroxide.

28. A fire resistant composition of claim 1 or 19, wherein :

the limited amount of glass additive is sufficient to ensure the formation of a self supporting porous ceramic material at temperatures above the decomposition temperature of the silicone polymer and below the fire rating temperature of the composition.

29. The composition of claim 28, wherein the fusion temperature of the composition is above the fire rating temperature.

30. The composition of claim 28, wherein the composition undergoes a volume shrinkage of less than 10% when heated to the fire rating temperature.

31. The composition of claim 28 wherein the composition undergoes a volume shrinkage of less than 5% when heated to the fire rating temperature.

32. Use of a composition as claimed in any one of claims from 1 to 31 as a firewall lining, a fire partition, a screen, a ceiling or lining, structural fire protection, a fire door insert, a window or door seal, an intumescent seal, or in an electrical switchboard cabinet.

33. Use of a composition as claimed in any one of claims from 1 to 31 for coating of an electrical conductor.